

they also suggest that the book is applicable in both primary-care and specialty medicine. Thus it loses focus and impact to appealing its broad scope. Personally, I would more appreciate a focused review of how best to teach medical students general internal medicine in 6 weeks. In general, primary-care physicians will probably find this book more useful than specialists.

Another criticism is that the tone of some of the writing feels a bit pedantic and stifling, often imparting wisdom with rigid statements that left me with the feeling that there is a correct way to teach. There is an excessive reliance on acronyms for teaching and feedback methods (eg, SNAPPS [summarize, narrow, analyze, probe, plan, select], RIME, and mini-CEX [clinical evaluation exercise]), which may be dizzying to the unfamiliar reader. These criticisms are relatively minor, however.

In general the volume is well written and well organized into useful segments for quick access. It covers important topics in teaching techniques for some of the most important teachers in medicine, who were without much useful guidance before the first edition of this book. Although slightly overpriced at \$49.95, this book is a very useful reference for the busy clinician teacher, especially in primary-care medicine, who wishes to enhance teaching effectiveness in an evidence-based manner. Respiratory therapists and allied health professionals will probably have less use for this volume, unless they are heavily involved with medical-student teaching.

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Egan's Fundamentals of Respiratory Care, 9th edition. Robert L Wilkins PhD RRT FAARC, James K Stoller PhD RRT FAARC, Robert M Kacmarek PhD RRT FAARC. St Louis: Mosby/Elsevier. 2008. Hard cover, 1,408 pages, \$99.95.

Egan's Fundamentals of Respiratory Care has one of the longest and most prolific histories of any respiratory care text. It began as "Egan's Fundamentals of Inhalation Therapy" in 1969, and became a foundation text in respiratory care education by mapping the scope of practice into a logical flow of theories, attributes, and skills. Egan's original intent was to create a text that contained the minimum knowledge to practice the scope of what was then inhalation therapy. After 9 editions, much has changed. The 3 primary editors continue to take up Egan's mantle and attempt to capture the scope of respiratory care in one volume. The book is written for the respiratory care student, but also serves practicing respiratory therapists, nurses, and physicians in training. Egan's is often the first place I look for an overview of a topic as I prepare to teach.

When I received my review copy, the first thing I noticed was the drastically different color scheme from that of the previous edition, which was a wise change. The volume resembles previous editions in size and character, and it appears sturdy. The end papers provide handy symbol and term definitions, tables, and formulas, such as those for P_{AO_2} and resistance of the airways (R_{aw}).

The book has 7 sections with 51 chapters, which follow a logical progression: foundations of respiratory care, applied anatomy and physiology, assessment of respiratory disorders, review of cardiopulmonary disease, basic therapeutics, acute and critical care, patient education, and long-term care. There are 4 appendixes, which include valuable conversion factors and a comprehensive table of normal values. The 45-page glossary contains many common terms students grapple with. The index is comprehensive, clear, and easy to use.

The 3 editors, Wilkins, Stoller, and Kacmarek, captained an impressive cadre of 43 authors. New in this edition are a chapter on the history of respiratory care, and a divided chapter on clinical laboratory values and the electrocardiogram (which were previously combined). Several chapters underwent substantial rewrites that document the many changes in respiratory care in the 5 years since the 8th edition. There is expanded treatment of vital topics, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA), evidence-based medicine, nutrition, and computers in health care. Throughout the section on cardiopulmonary disease are discussions of the respiratory therapist's role in disease management, a trend that Pierson outlined in his 2001 out-

look on the future of respiratory care,¹ which the authors point out in Chapter 1.

The chapters follow a consistent layout throughout the text. Each chapter begins with a set of learning objectives designed to mimic the 3 cognitive levels in the National Board for Respiratory Care (NBRC) examinations: recall, analysis, and application. The objectives are kept brief, even for such substantial chapters as Chapter 43, "Physiology of Ventilatory Support" (only 4 objectives for a 40-page chapter). Following the objectives is a chapter outline, a list of key terms, and an overview statement that explains why the material is important. The chapter content is logically presented, from simplest to most complex. The overall look of the pages is generally clean, owing to the use of more muted colors than in previous editions. The publisher concentrated the color where it is most beneficial: in the graphics. The various graphic elements do a fantastic job of supporting the text. The writing is in a friendly, informative voice that is easy to read. Content is referenced to the detailed chapter bibliographies. Clinical practice guidelines are used in many chapters, which emphasize and support the text. Each chapter concludes with a bulleted list of key points, which will help students answer the perennial question, "What do I need to know?" The included references represent the current state of evidence and provide a great reading list.

The color graphics, photographs, and line drawings are consistently adjacent to the text they support, add value to the text, and are appropriate for the subject matter. Chapter 8, "The Respiratory System," has many full-color illustrations, photographs, radiographs, and micrographs. The subsequent chapter, on ventilation, uses many graphs and illustrations to support the complex material presented. Color graphics adds considerably to the expense of a text, and the publishing team did a good job of getting the most "bang for the buck." The book's price, \$99.95, is moderate, though the price is one of the primary complaints I have heard about **Egan's** over the years.

The book's tables are mostly clear and concise, without clutter. Tables can add tremendous value when used appropriately, and **Egan's** does not disappoint. There are also boxes that illustrate mathematical principles, application of theory, and key points. These are timely and also support the body of the text. Clinical "pearls" are given as "Rules of Thumb," which are called out from

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the main body of the text to strengthen the main themes from the text.

The "Mini Clini" sections give short clinical vignettes that pose clinical problems and give the solutions. The problems are well written and thought provoking. The solutions are informative and illustrative. This is a dynamite way of cultivating critical thinking in students. As an instructor, I question the need to have the solution adjacent to the problem. There are pros and cons to doing so. Presenting a problem is an ideal way to pull a reader from the passive learning mode of reading into a more active role. Placing the solution adjacent to the problem may leave the reader stuck in the passive mode. On the other hand, the solutions are meant to call out the theory from the text and illustrate the application of that theory. I can see the merits of both sides of this argument. Either way, the "Mini Clini" is a thought-provoking way to support claims made in the chapter and to help build the application and analysis skills required in respiratory care.

This text has 2 supporting elements: a workbook (reviewed below), and Elsevier's "Evolve" learning management system Web site. Elsevier plans to launch an entire Web-based course around **Egan's**, for which there will be an additional cost. I previewed one of the units of that online course, and found it to be a great companion to the text. Material was presented to accompany the text, and there were numerous interactive learning elements. The module utilizes text and animations that allow learners to work asynchronously. The exercises are designed relative to the 3 cognitive levels. The course also has NBRC-style questions and branching-logic clinical simulations. There are also some synchronous communication and social networking tools at Evolve. As free resources to accompany the text, Evolve also contains (as it has in the past) answers to the workbook questions and some neat links to further research. Something I found intriguing and helpful was an NBRC matrix that is indexed to the text. For instructors it features an online grade book, test bank, and presentation slides for most of the chapters in the text.

The field of respiratory care has grown up with **Egan's Fundamentals of Respiratory Care**. Egan's original intent to document the scope of practice and the minimum knowledge base needed for practice is still the backbone for this text. The current editors have retained the spirit of the orig-

inal aims of the book and brought it up to a level commensurate with the state of respiratory care. As with any text, there is, no doubt, already work underway that will date this edition. The editors have done an amazing job of updating and reorganizing the content to document and support the respiratory care profession in a way that will make it understandable for students and informative for practitioners. Strong use of graphic elements add tremendous value to the text, and the book's accompanying education resources are superior.

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REFERENCE

1. Pierson DJ. The future of respiratory care. *Respir Care* 2001;46(7):705-718.

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Workbook for Egan's Fundamentals of Respiratory Care, 9th edition. Robert L Wilkins PhD RRT FAARC and Stephen Wehrman RRT RPFT AE-C. St Louis: Mosby Elsevier. 2008. Soft cover, 592 pages, \$29.95.

In the preface to this 9th edition of the **Workbook for Egan's Fundamentals of Respiratory Care**, Wehrman writes, "the problem for all health students is information overload." This is true. With the Internet on everyone's desktop, laptop, palmtop, and cell phone, instant access to information has become commonplace for the majority of today's students. The problem is judging the quality of that information. How does one sort through the myriad health-related data on the Internet and decide what to trust and what to discard? Instruction to the modern student must take these facts into account. Wehrman states that one of the goals was to "help you sort out some of the information you will need to succeed in practice and to pass your board examinations." The book professes to help answer 3 fundamental questions: What do I need to know? Why do I need to know it? and How will I use it?

The intended readership includes respiratory care students and instructors. The book has 592 pages, a soft cover, and perforated pages, which make it easy to tear

out sections, presumably for use as homework assignments. The workbook follows, almost verbatim, the outline of **Egan's Fundamentals of Respiratory Care**. There are 7 sections (Foundations of Respiratory Care; Applied Anatomy and Physiology; Assessment of Respiratory Disorders; Review of Cardiopulmonary Disease; Basic Therapeutics; Acute and Critical Care; and Patient Education and Long-term Care), and 51 chapters.

Elsevier's "Evolve" learning resource center (<http://evolve.elsevier.com>) provides valuable complementary materials for instructors and students, including all the answers to the workbook exercises, and a cross-reference guide that links items from a detailed content outline of the National Board for Respiratory Care (NBRC) Certified Respiratory Therapist examination to the respective content in the textbook and the workbook. The preface to the workbook states that this feature is also available for the Registered Respiratory Therapist examination, but I did not find it at the Evolve Web site at the time of this review. Elsevier has done a nice job of integrating the traditional textbook with the online environment, which will appeal to many respiratory care programs that use a similar approach to deliver course content. The modern, computer savvy student will probably find the online resources attractive as well.

Many workbooks published in conjunction with respiratory care textbooks amount to nothing more than a collection of multiple-choice/fill-in-the-blank questions. Such exercises, while somewhat helpful, are rarely engaging or interesting on their own, and rarely require the student to do more than re-read a section of text to find the answer. That type of question falls into the NBRC category of "recall," which is the lowest of the 3 cognitive levels assessed by the national board examinations. With each new iteration of its matrix and detailed content outline, the NBRC continues to raise the bar. More questions are being written to assess the application and analysis levels of understanding expected of the new graduate, so it is important that exercises engage the student and challenge his or her understanding to this higher level of thinking. The workbook accomplishes this through an engaging tone, a variety of learning activities, and by inviting the student to explore other learning resources. It will enhance any respiratory care course.

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Fundamentals of Respiratory Care. They don't call this book "The Bible of Respiratory" for nothing. I recommend it for all
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